

Title (en)

Semiconductor device and liquid jet apparatus using the same

Title (de)

Halbleiterbauelement und dessen Verwendung in einer Flüssigkeitsstrahl-Vorrichtung

Title (fr)

Dispositif à semi-conducteur et dispositif à jet liquide l'utilisant

Publication

EP 1341233 B1 20081203 (EN)

Application

EP 03003746 A 20030219

Priority

- JP 2002043164 A 20020220
- JP 2003032345 A 20030210

Abstract (en)

[origin: EP1341233A2] A semiconductor device having a high source breakdown voltage and high performance and high reliability and a liquid jet apparatus are provided. In a semiconductor device having a switching element for flowing current through a load and a circuit for driving the switching element, respectively formed on the same substrate, the circuit has a source follower transistor for generating a drive voltage to be applied to a control electrode of the switching element, and the source region of the source follower transistor has a first doped region connected to the source electrode and a second doped region having an impurity concentration lower than that of the first doped region, the second doped region forming a pn junction with a semiconductor region forming a channel.

IPC 8 full level

B41J 2/05 (2006.01); **H01L 27/088** (2006.01); **H01L 21/8234** (2006.01); **H01L 27/092** (2006.01)

CPC (source: EP US)

B41J 2/04541 (2013.01 - EP); **B41J 2/0458** (2013.01 - EP); **H01L 27/0922** (2013.01 - EP US); **H01L 29/66575** (2013.01 - EP US); **H01L 29/66681** (2013.01 - EP US); **H01L 29/7816** (2013.01 - EP US); **H01L 29/7833** (2013.01 - EP US); **B41J 2202/13** (2013.01 - EP); **H01L 29/0696** (2013.01 - EP US); **H01L 29/1095** (2013.01 - EP US); **H01L 29/41758** (2013.01 - EP US); **H01L 29/42368** (2013.01 - EP US)

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

EP 1341233 A2 20030903; **EP 1341233 A3 20060412**; **EP 1341233 B1 20081203**; DE 60324980 D1 20090115; JP 2003318279 A 20031107; JP 4125153 B2 20080730; US 2003155585 A1 20030821; US 6822289 B2 20041123

DOCDB simple family (application)

EP 03003746 A 20030219; DE 60324980 T 20030219; JP 2003032345 A 20030210; US 36857903 A 20030220